

**REMARKS**

Applicant wishes to thank the Examiner for a complete and thorough examination of the application. By this amendment, claims 1, 3, 4, 5, and 11 have been amended. Accordingly, claims 1-11 are currently under examination in the application of which claim 1 is an independent claim, and claims 12-30 currently stand withdrawn. The amendment to the specification does not add new matter to the application. The amendment to the specification is substantially the same language as original claim 1 of the present application.

In view of the above amendments and the following Remarks, Applicants respectfully request reconsideration and timely withdrawal of the pending objections and rejections for the reasons discussed below.

***Preliminary Matters – Withdrawn claims***

Newly submitted claims 12-30 were withdrawn from consideration by the Examiner for the reasons that the “tooling of claims 12-21, the tooling of claims 22-26 the tooling of claims 27, the method of manufacturing a composite of claim 28 and a method of making a composite of claims 29-30 produces a tooling that is different from the tooling of claims 1-9 and newly added 10-11 and the tooling of claim 12-27 are different tooling that the tooling of claims 1-9 and newly added claims 10-11.” The Examiner has not provided any basis for the constructive election of claims other than a statement that the tooling is different. Applicant respectfully disagrees with the Examiner in that claims 1-30 all have in common a tooling, or a use of a tooling, comprising carbonaceous foam. Accordingly Applicant respectfully requests that claims 12-30 be examined together with claims 1-11 and that the constructive election be withdrawn.

***Rejections Under 35 U.S.C. §112, first paragraph***

Claim 11 stands rejected under 35 U.S.C. §112, first paragraph as failing to comply with the written description requirement. The Examiner asserts that the phrase “wherein the coefficient of thermal expansion of the carbonaceous foam is varied to be substantially similar to the coefficient of thermal expansion of the composite material.” The Examiner indicated that the limitation was not anywhere in the abstract, specification and claims as originally filed.

Applicants respectfully traverse this rejection for at least the following reasons.

The specification clearly teaches that it is desirable for a tooling to have a similar coefficient of thermal expansion with the composite part or material. For example at page 2, lines 15-17, the specification teaches that mold (tooling) materials must possess a tailorable thermal expansion to match that of the material being formed. The specification continues to teach matching thermal expansion at page 3, lines 16+ where the specification discusses problems that occur if there is mismatch of the coefficient of thermal expansion with the composite material. The specification at page 6, lines 2-5 teaches that composite tooling using carbonaceous foam are especially attractive because the properties of the foam, including the coefficient of thermal expansion, are tailorable.

Since the application clearly teaches that coefficient of thermal expansion of the carbonaceous foam is preferably matched to the coefficient of thermal expansion for the material, Applicant respectfully submits that the claim 11 is supported by the specification as originally filed and does not constitute new matter. Accordingly, Applicant respectfully requests withdrawal of the 35 U.S.C. §112, first paragraph rejection of claim 11.

***Double Patenting Rejections***

Claims 1-8 remain provisionally rejected under obviousness-type double patenting as being unpatentable over claims 1-6 of copending Application No. 10/046,436 and claim 1-5, 11-12, and 17 of copending Application No. 09/802,828. Applicant respectfully disagrees. Claims 1-8 are distinctly directed to a tooling comprising carbonaceous foam. Application No. 10/046,436 is not directed to a tooling for composite materials. Similarly Application No. 09/802,828 is not directed to a tooling comprising carbonaceous foam, rather 09/802,828 is directed to making carbon foam from coal.

Applicant respectfully requests withdrawal of the provisional obviousness-type double patent rejections over Application No. 10/046,436 and 09/802,828.

***Rejections Under 35 U.S.C. §101***

Claims 3-7 remain provisionally rejected under 35 U.S.C. §101 as claiming the same invention as that of claims 1-5 of copending Application No. 09/802,828. Claims 3-7 are dependent claims depending from claim 1. Claim 1 is directed to a tooling comprising carbonaceous foam. As discussed above, claims in the 09/802,828 application are directed to making carbon foam from coal, not a tooling that includes carbonaceous foam in its structure.

Accordingly, Applicant respectfully requests withdrawal of the 35 U.S.C. §101 rejection of claim 3-7.

***Rejections Under 35 U.S.C. §103***

Claims 1-11 stand rejected under 35 U.S.C. §103(a) over U. S. Patent 3,309,437 issued to Harnett ("Harnett") in view G.B. Patent No. 1,489,690 issued to Madley *et al.* ("Madley") and

the Encyclopedia of Chemical Technology, 4<sup>th</sup> ed., Vol. 6, 1993, Kirk-Othmer (“Kirk-Othmer”).

Applicant respectfully traverses this rejection for at least the following reasons.

Claim 1 is directed to a tool body comprising carbonaceous foam, where the carbonaceous foam provides structural support for at least a portion of the composite material, and where the tool body is adapted for fabricating members from composite materials.

Harnett does not teach, disclose, or suggest a tooling body of any kind. Madley does not teach, disclose, or suggest a tooling body of any kind. Similarly, Kirk-Othmer does not teach, disclose, or suggest a tooling body of any kind. Therefore, even assuming the references are properly combinable, the combination of references fails to disclose, teach or suggest a tooling body as required by claim 1.

The Examiner has asserted that with respect to the tooling structure, the “prior art provides said teachings as set forth in the art of record.” Office Action at page 5. Since Harnett, Madley, and Kirk-Othmer appear to be silent with respect to a tooling body, Applicant respectfully requests that the Examiner specifically identify in which of these references a tooling body is taught.

Accordingly, Applicants respectfully request withdrawal of the 35 U.S.C. §103(a) rejection of claims 1-11. Since none of the other prior art of record, whether taken alone or in any combination, discloses or suggests all the features of the claimed invention, Applicants respectfully submit that independent claim 1 and all the claims that depend therefrom are allowable.

**CONCLUSION**

Applicant believes that a full and complete response has been made to the pending Office Action and respectfully submits that all of the stated objections and grounds for rejection have been overcome or rendered moot. Accordingly, Applicant respectfully submits that all pending claims are allowable and that the application is in condition for allowance.

Should the Examiner feel that there are any issues outstanding after consideration of this response; the Examiner is invited to contact the Applicant's undersigned representative at the number below to expedite prosecution.

Prompt and favorable consideration of this Reply is respectfully requested.

Respectfully submitted,



Philip D. Lane, Ph.D.  
Reg. No. 41,140

Date: January 6, 2004

McGuireWoods LLP  
1750 Tysons Boulevard  
Suite 1800  
McLean, VA 22102-4215  
Tel: 703-712-5069  
Fax: 703-712-5069